

REMARKS

Claims 1 - 3, 5, 8, 10 - 13, 16, 19, 20, 22 - 53, 55, 58, 60 - 63, 69, 70 and 72 - 75 have been amended.

Claims 76 - 87 have been added.

Claims 1 - 87 are present in the subject application.

In the Office Action dated March 29, 2002, the Examiner has rejected claims 1 - 75 under 35 U.S.C. §103(a). Favorable reconsideration of the subject application is respectfully requested in view of the following remarks.

Initially, the specification has been amended to provide Serial Numbers for the cross-referenced applications and to correct minor typographical errors within the Brief Description of Drawings Section to refer to Figs. 22A - 22E and 24. In addition, the Appendix originally filed with the subject application is recorded on a CD-R as required by an Examiner in one of the co-pending applications. The CD-R is submitted herewith, while the specification has been further amended to refer to the CD-R. No new matter has been added.

The Examiner has rejected claims 1 - 22, 26 - 47 and 51 - 72 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,557,722 (DeRose et al). Briefly, the DeRose et al patent discloses a data processing system and method for generating a representation of an electronic document, for indexing the electronic document, for navigating the electronic document, using its representation and for displaying the electronic document on an output device. The system and method are used with electronic documents having descriptive markup which describes the content or meaning of the document rather than its appearance. Each markup element defines a node or element in a tree, where the tree is represented by providing a unique identifier for each element and for accessing a descriptor of the element. The element

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descriptor preferably includes indications of the parent, first child, last child, left sibling, right sibling, type name and text location for the element. The document representation is used to facilitate navigation of the text for constructing navigational aids, such as table of contents, and full text indexing.

In contrast, the present invention is directed toward a web-based system for storing content objects in a data repository as a group of hierarchically related content entities. Each non-container content object is preferably stored as a separate entity in the data repository. As content objects are input into the system or as a user selects desired objects for inclusion in a content object, the system arranges the content objects hierarchically according to the order specified by the input content object or by the user. The system then creates a file object defining the content object that contains a list or outline of the container and non-container entities selected, their identifiers, order and structure. This file object is stored separately in the data repository.

The Examiner takes the position that the DeRose et al patent teaches a method using a tree-like structure for storing at least one content object as a title of a book that has a plurality of content entities, such as chapter, section and text in the data repository, but that the patent fails to disclose for each content object, storing as a file object a list of content entity identifiers defining the content of the content object or an outline of containers and content entity identifiers defining the content and hierarchy of the content object, and storing ones of the plurality of the content entities as a plurality of file objects, each file object containing one content entity. The Examiner further alleges that the DeRose et al patent teaches the process of indexing a document utilizing three file objects created on a mass storage device (i.e., the element directory, the fully-qualified name table and the text content). The Examiner takes the further position that it would have

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been obvious for one of ordinary skill in the art at the time the invention was made to modify the DeRose et al process to include the above-discussed features lacking in that patent's disclosure in order to format electronic documents, such as an electronic book, in accordance with its contents.

This rejection is respectfully traversed. In particular, amended independent claims 1, 11, 26, 36, 51 and 61 recite the features of storing ones of the plurality of content entities within the data repository as a plurality of individually accessible file objects, wherein each file object contains one content entity. The DeRose et al patent does not disclose, teach or suggest these features. Rather, the DeRose et al patent discloses a system that receives as its input a document, represented in electronic form, which includes text content, descriptive markup and possibly non-text content. The descriptive markup of an input document is interpretable as an ordered hierarchy of content objects, such as a tree (See Column 7, line 59 to Column 8, line 5). The system further indexes a document or generates an element directory and other data structures in order to traverse the document (See Column 10, lines 39 - 40). The system creates three file objects during indexing, namely the element directory, the fully-qualified name table and the text content. The element directory, fully-qualified name table and text content of a document are written to these file objects respectively during the indexing process (See Column 10, lines 49 - 54). The text of particular elements are stored in a common text file or text content file object (See Column. 12, lines 41 - 44 and Column 18, lines 33 - 35). Thus, the DeRose et al patent discloses the storage of text portions of an element within a common file object, as opposed to storing each content entity within the data repository as an individually accessible file object, where each file object contains one content entity as recited in the claims. In other words, the common file object of the DeRose et al patent stores numerous content entities, whereas the claims recite that each content entity is stored as an independent individually accessible file

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object within the data repository. Since the DeRose et al patent does not disclose, teach or suggest the features recited in independent claims 1, 11, 26, 36, 51 and 61 as discussed above, these claims are considered to be in condition for allowance.

Claims 2 - 10, 12 - 22, 27 - 35, 37 - 47, 52 - 60 and 62 - 72 depend, either directly or indirectly, from independent claims 1, 11, 26, 36, 51 and 61, respectively. These dependent claims have been amended for consistency with their parent claims and/or to correct minor typographical and/or grammatical errors, and include all of the limitations of their parent claims. The dependent claims are considered to be in condition for allowance for substantially the same reasons discussed above in relation to their parent claims and for further limitations recited in these claims.

The Examiner has rejected claims 23 - 25, 48 - 50 and 73 - 75 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,557,722 (DeRose et al) in view of U.S. Patent No. 6,055,544 (DeRose et al). Briefly, the '722 patent discloses a data processing system and method for generating a representation of, indexing, navigating and displaying electronic documents as described above. The '544 patent discloses a computer system for rendering an electronic document having descriptive markup defining hierarchical elements. The computer system stores a first representation of the hierarchy of all elements in the electronic document and stores a second representation of the hierarchy of only significant elements in the electronic document. In response to a request for a portion of the document, the computer system selects a portion defined by a significant element in the second representation. The selected portion is rendered by rendering the significant element defining the portion along with elements adjacent to the significant element according to a relationship of elements in the first representation to both the significant element defining the selected portion and other significant elements in the second

representation.

In contrast, the present invention is directed toward a web-based system for storing content objects in a data repository as a group of hierarchically related content entities described above.

The Examiner takes the position that the '722 patent discloses the claimed limitations, except for the features of retrieving a file object containing a list of content entity identifiers, for each content entity identifier, retrieving the file object corresponding to the identified content entity and inserting the content entity into the ordered list at the location of its content entity identifier. The Examiner further alleges that the '544 patent teaches a method for retrieving a content object from a data repository by using the table of content, wherein an element in the table will be selected to retrieve the file object containing the list of content entity identifiers and the element identifiers and corresponding attributes in the element directory will be accessed to transfer a document fragment to the client. The Examiner takes the further position that it would have been obvious of one in the ordinary skill in the art at the time the invention was made to modify the '722 patent to include the '544 patent technique in order to render a document requested by a user.

This rejection is respectfully traversed. In particular, amended independent claims 23, 24, 48, 49, 73 and 74 each recite the features of for each content entity identifier, retrieving the individually accessible file object corresponding to the identified content entity. As discussed above, the '722 patent does not disclose, teach or suggest individually accessible file objects each containing a content entity. The '544 patent similarly does not disclose, teach or suggest these features. Rather, the '544 patent discloses an element directory in the form of an array of element descriptors, each representing an element of the document (See Column 9, lines 40 - 42).

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Each element descriptor includes several fields including a field representing the location of text characters for a text chunk. A separate document is maintained in which text context is stored (See Column 9, lines 51 - 54). The '544 patent further discloses that the element directory may be used to determine the location or offsets in a text file of the text content of text elements (See Column 13, lines 58 - 61). Thus, the '544 patent discloses numerous content entities stored within a common file object, as opposed to each content entity being stored within an independent individually accessible file object as recited in the claims. Since the '722 and '544 patents do not disclose, teach or suggest, either alone or in combination, the features recited in independent claims 23 - 24, 48 - 49 and 73 - 74 as discussed above, these claims are considered to be in condition for allowance.

Claims 25, 50 and 75 depend, either directly or indirectly, from independent claims 24, 49 and 74, respectively. These dependent claims have been amended for consistency with their parent claims and/or to correct minor typographical and/or grammatical errors, and include all the limitations of their parent claims. The dependent claims are considered to be in condition for allowance for substantially the same reasons discussed above in relation to their parent claims and for further limitations recited in these claims.

Newly added claims 76 - 87 depend, either directly or indirectly, from independent claims 1, 11, 23, 24, 26, 36, 48, 49, 51, 61, 73 and 74, respectively, and therefore include all the limitations of their parent claims. These claims are considered to be in condition for allowance for substantially the same reasons discussed above in relation to their parent claims and for further limitations recited in these claims. In particular, claims 76 - 87 recite the features of the list or outline being manipulable by a user to select the content entities within the content object. The '722 and '544 patents, either alone or in combination, do not disclose, teach or suggest these

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features. Rather, these patents disclose that the element directory and table of contents are generated based on and by processing an electronic document (See the '722 patent Column 5, lines 46 - 58; Column 9, lines 17 - 20; Column 12, lines 51 - 58; and Column 16, lines 29 - 32; See the '544 patent, Column 9, lines 36 - 38; Column 11, lines 48 - 53; and Column 18, lines 24 - 26). Thus, the element directory and table of contents are static and generated based on the document structure (i.e., a document having pre-defined content), as opposed to a list or outline being manipulable by a user to select the content entities within a content object as recited in the claims. Since the '722 and '544 patents do not disclose, teach or suggest, either alone or in combination, the features recited claims 76 - 87 as discussed above, these claims are considered to be in condition for allowance.

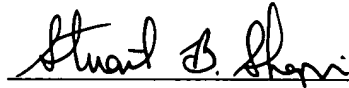
In addition to the foregoing, it would not be obvious to modify the '722 patent or to combine the '722 and '544 patents to attain the claimed invention. Specifically, these patents are directed to the rendering of an electronic document for display. The content of the document is predetermined, while the element directory and table of contents is generated from the document structure. In contrast, the present invention is directed toward a web-based system enabling creation of content objects by manipulating lists or outlines of content entity identifiers identifying the content within the object. Since the '722 and '544 patents are concerned with display of documents having predefined content, these patents are not directed toward content object creation and editing and, therefore, there is no reason, suggestion or motivation to modify or combine the documents to achieve that function. Thus, the '722 and '544 patents do not render the claimed invention obvious.

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The application, having been shown to overcome issues raised in the Office Action, is considered to be in condition for allowance and Notice of Allowance is earnestly solicited.

Respectfully submitted,



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APPENDIX

SPECIFICATION

The following are the amended paragraphs of the specification with markings to show the changes made, where brackets ('[]') indicate removed text and underlining indicates additional text.

The amended paragraphs beginning at page 1, line 11.

--A System and Method for Creating Compilations of Content

Serial No. [___/___,___] 09/489,134 (Our reference Docket # STL000012US1)

Method and System for Adding Content to a Content Object Stored in a Data Repository

Serial No. [___/___,___] 09/489,576 (Our reference Docket # STL000013US1)

Method and System for Adding User-Provided Content to a Content Object Stored in a Data Repository

Serial No. [___/___,___] 09/488,976 (Our reference Docket # STL000014US1)

Method and System for Moving Content in a Content Object Stored in a Data Repository

Serial No. [___/___,___] 09/488,971 (Our reference Docket # STL000015US1)

Method and System for Removing Content in a Content Object Stored in a Data Repository

Serial No. [___/___,___] 09/489,087 (Our reference Docket # STL000016US1)

Prerequisite Checking in a System for Creating Compilations of Content

Serial No. [___/___,___] 09/488,969 (Our reference Docket # STL000017US1)

Method and System for Preventing Mutually Exclusive Content Entities Stored in a Data Repository to be Included in the Same Compilation of Content

Serial No. [___/___,___] 09/489,265 (Our reference Docket # STL000018US1)

Volume Management Method and System for a Compilation of Content

Serial No. [___/___,___] 09/489,090 (Our reference Docket # STL000019US1)

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Method and System for Calculating Cost of a Compilation of Content

Serial No. [___/___,___] 09/489,143 (Our reference Docket # STL000020US1)

File Structure for Storing Content Objects in a Data Repository

Serial No. [___/___,___] 09/489,730 (Our reference Docket # STL000022US1)

Providing a Functional Layer for Facilitating Creation and Manipulation of Compilations of Content

Serial No. [___/___,___] 09/489,605 (Our reference Docket # STL000023US1)

A Hitmask for Querying Hierarchically Related Content Entities

Serial No. [___/___,___] 09/489,133 (Our reference Docket # STL990182US1)

A Method and Configurable Model for Storing Hierarchical Data in a Non-Hierarchical Data Repository

Serial No. [___/___,___] 09/489,561 (Our reference Docket # STL000025US1)

Reference to a Computer Listing Appendix

Appendix A to this application is set forth on a single compact disk and the material recorded thereon is incorporated by reference herein. The following file is recorded on the compact disc: file name: AppendixA.txt; file size: 107kB; date of creation: May 16, 2002.--

The amended paragraph at lines 6 - 7 of page 6.

--Figs. 22A - [22D] 22E represent the system administrator interface of an embodiment of the present invention;--

The amended paragraph at lines 10 - 11 of page 6.

--Fig. [25] 24 is a state diagram representing the states of a user, request and CBO at various stages of the process for creating compilations of content.--

CLAIMS

The following are the amended claims with markings to show the changes made, where brackets ('[]') indicate removed text and underlining indicates additional text.

--1. (Amended) A method for storing at least one content object [having] including a plurality of content entities in a data repository, comprising the steps of:

[For] for each content object,

[Storing] storing as a file object within the data repository a list of content entity identifiers [defining] indicating the content entities [of] within the content object, and

[Storing] storing ones of the plurality of content entities within the data repository as a plurality of individually accessible file objects, wherein each file object [containing] contains one content entity.

2. (Amended) The method of claim 1, further comprising the step of creating an attribute table in the data repository for storing an attribute pertaining to at least one of content objects [or] and content entities.

3. (Amended) The method of claim 2, further comprising the step of creating a row for each content object in the attribute table, the row containing at least one attribute pertaining to the content [entity] object.

5. (Amended) The method of claim 2, wherein at least one attribute[s] is extracted from the content object.

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8. (Amended) The method of claim 1, wherein the content object is a book and ones of the content entities are one of volumes, chapters [or] and sections.

10. (Amended) The method of claim [4] 6, wherein at least one of the associated components comprises an image.

11. (Amended) A method for storing at least one hierarchically structured content object having a plurality of content entities in a data repository, comprising the steps of:

[For] for each content object,

[Storing] storing as a file object within the data repository an outline of containers and content entity identifiers defining the content and hierarchy of the content object, and

[Storing] storing ones of the plurality of content entities within the data repository as a plurality of individually accessible file objects, wherein each file object [containing] contains one content entity.

12. (Amended) The method of claim 11, further comprising the step of creating an attribute table in the data repository for storing an attribute pertaining to at least one of content objects [or] and content entities.

13. (Amended) The method of claim 12, further comprising the step of creating a row for each content object in the attribute table, the row containing at least one attribute pertaining to the content [entity] object.

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16. (Amended) The method of claim 12, wherein at least one attribute[s] is extracted from the content object.

19. (Amended) The method of claim 11, wherein the content object is a book and ones of the content entities are one of volumes, chapters [or] and sections.

20. (Amended) The method of claim 11, wherein the content object is a book and ones of the containers are one of books, volumes [or] and chapters.

22. (Amended) The method of claim [14] 17, wherein at least one of the associated components comprises one of an image, a video segment [or] and an audio segment.

23. (Amended) A method for retrieving a content object from a data repository, the content object being stored within the data repository as a file object containing an ordered list of content entity identifiers [defining] indicating the content entities [of] within the content object, [and a plurality of content objects, each containing a content entity,] comprising the steps of:

[Retrieving] retrieving the file object containing the list of content entity identifiers, wherein each content entity is stored as an individually accessible file object within the data repository;

[For] for each content [entity] entity identifier, retrieving the individually accessible file object corresponding to the identified content entity; and

[Inserting] inserting the content entity into the ordered list at the location of its content entity identifier.

24. (Amended) A method for constructing a content object, the contents of the content object being defined by an ordered list of content entity identifiers identifying one or more content entities each stored in a data repository as an individually accessible file object, comprising the steps of:

[For] for each content [entitiy] entity identifier, retrieving the individually accessible file object corresponding to the identified content entity; and

[Inserting] inserting the content entity into the ordered list at the location of its content entity identifier.

25. (Amended) The method of claim 24, further comprising the steps of:

[Assigning] assigning an identifier to the content object; and

[Assigning] assigning new content entity identifiers to the content entities, the new identifiers including the identifier assigned to the content object.

26. (Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for storing at least one content object [having] including a plurality of content entities in a data repository, [comprising] the method steps comprising [of]:

[For] for each content object,

[Storing] storing as a file object within the data repository a list of content entity identifiers [defining] indicating the content entities [of] within the content object, and

[Storing] storing ones of the plurality of content entities within the data repository

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as a plurality of individually accessible file objects, wherein each file object [containing]
contains one content entity.

27. (Amended) The [method] device of claim 26, wherein the method steps further
[comprising] comprise the step of creating an attribute table in the data repository for storing an
attribute pertaining to at least one of content objects [or] and content entities.

28. (Amended) The [method] device of claim 27, wherein the method steps further
[comprising] comprise the step of creating a row for each content object in the attribute table, the
row containing at least one attribute pertaining to the content [entity] object.

29. (Amended) The [method] device of claim 27, wherein the method steps further
[comprising] comprise the step of creating a row for each content entity in the attribute table, the
row containing at least one attribute pertaining to the content entity.

30. (Amended) The [method] device of claim 27, wherein at least one attribute[s] is
extracted from the content object.

31. (Amended) The [method] device of claim 26, wherein ones of the content entities
further comprise components associated with the content object, and the method steps further
comprising the step of storing each associated component as a file object.

32. (Amended) The [method] device of claim 26, wherein the content object is one of a

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book, a collection of images, an album, and a video.

33. (Amended) The [method] device of claim 26, wherein the content object is a book and ones of the content entities are one of volumes, chapters [or] and sections.

34. (Amended) The [method] device of claim 26, wherein the content object is a compilation of content.

35. (Amended) The [method] device of claim [29] 31, wherein at least one of the associated components comprises one of an image, a video segment [or] and an audio segment.

36. (Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for storing at least one hierarchically structured content object [having] including a plurality of content entities in a data repository, [comprising] the method steps [of:] comprising:

[For] for each content object,

[Storing] storing as a file object within the data repository an outline of containers and content entity identifiers defining the content and hierarchy of the content object, and

[Storing] storing ones of the plurality of content entities within the data repository as a plurality of individually accessible file objects, wherein each file object [containing] contains one content entity.

37. (Amended) The [method] device of claim 36, wherein the method steps further

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[comprising] comprise the step of creating an attribute table in the data repository for storing an attribute pertaining to at least one of content objects [or] and content entities.

38. (Amended) The [method] device of claim 37, wherein the method steps further [comprising] comprise the step of creating a row for each content object in the attribute table, the row containing at least one attribute pertaining to the content [entity] object.

39. (Amended) The [method] device of claim 37, wherein the method steps further [comprising] comprise the step of creating a row for each container in the attribute table, the row containing at least one attribute pertaining to the container.

40. (Amended) The [method] device of claim 37, wherein the method steps further [comprising] comprise the step of creating a row for each content entity in the attribute table, the row containing at least one attribute pertaining to the content entity.

41. (Amended) The [method] device of claim 37, wherein at least one attribute[s] is extracted from the content object.

42. (Amended) The [method] device of claim 36, wherein ones of the content entities further comprise components associated with the content object, and the method steps further comprising the step of storing each associated component as a file object.

43. (Amended) The [method] device of claim 36, wherein the content object is one of a

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book, a collection of images, an album, and a video.

44. (Amended) The [method] device of claim 36, wherein the content object is a book and ones of the content entities are one of volumes, chapters [or] and sections.

45. (Amended) The [method] device of claim 36, wherein the content object is a book and ones of the containers are one of books, volumes [or] and chapters.

46. (Amended) The [method] device of claim 36, wherein the content object is a compilation of content.

47. (Amended) The [method] device of claim 42, wherein at least one of the associated components comprises an image.

48. (Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for retrieving a content object from a data repository, the content object being stored within the data repository as a file object containing an ordered list of content entity identifiers [defining] indicating the content entities within [of] the content object, [and a plurality of content objects, each containing a content entity, comprising] the method steps [of:] comprising:

[Retrieving] retrieving the file object containing the list of content entity identifiers, wherein each content entity is stored as an individually accessible file object within the data repository;

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▲ [For] for each content [entitiy] entity identifier, retrieving the individually accessible file object corresponding to the identified content entity; and

[Inserting] inserting the content entity into the ordered list at the location of its content entity identifier.

49. (Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for constructing a content object, the contents of the content object being defined by an ordered list of content entity identifiers identifying one or more content entities each stored in a data repository as an individually accessible file object, [comprising] the method steps [of:] comprising:

[For] for each content [entitiy] entity identifier, retrieving the individually accessible file object corresponding to the identified content entity; and

[Inserting] inserting the content entity into the ordered list at the location of its content entity identifier.

50. (Amended) The [method] device of claim 49, wherein the method steps further [comprising] comprise the steps of:

assigning an identifier to the content object; and

assigning new content entity identifiers to the content entities, the new identifiers including the identifier assigned to the content object.

51. (Amended) A system for storing at least one content object [having] including a plurality of content entities in a data repository, comprising:

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• [Means] means for storing, as a file object within the data repository, a list of content entity identifiers [defining] indicating the content entities within [of]the content object, and

[Means] means for storing ones of the plurality of content entities within the data repository as a plurality of individually accessible file objects, wherein each file object [containing] contains one content entity.

52. (Amended) The system of claim 51, further comprising means for creating an attribute table in the data repository for storing an attribute pertaining to at least one of content objects [or] and content entities.

53. (Amended) The system of claim 52, further comprising means for creating a row for each content object in the attribute table, the row containing at least one attribute pertaining to the content [entity] object.

55. (Amended) The system of claim 52, wherein at least one attribute[s] is extracted from the content object.

58. (Amended) The system of claim 51, wherein the content object is a book and ones of the content entities are one of volumes, chapters [or] and sections.

60. (Amended) The system of claim [54] 56, wherein at least one of the associated components comprises one of an image, a video segment [or] and an audio segment.

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61. (Amended) A system for storing at least one hierarchically structured content object [having] including a plurality of content entities in a data repository, comprising:

[Means] means for storing an outline of containers and content entity identifiers for each content object, the outline being stored as a file object within the data repository and defining the content and hierarchy of the content object, and

[Means] means for storing ones of the plurality of content entities within the data repository as a plurality of individually accessible file objects, wherein each file object [containing] contains one content entity.

62. (Amended) The system of claim 61, further comprising means for creating an attribute table in the data repository for storing an attribute pertaining to at least one of content objects [or] and content entities.

63. (Amended) The system of claim 62, further comprising means for creating a row for each content object in the attribute table, the row containing at least one attribute pertaining to the content [entity] object.

69. (Amended) The system of claim 61, wherein the content object is a book and ones of the content entities are one of volumes, chapters [or] and sections.

70. (Amended) The system of claim 61, wherein the content object is a book and ones of the containers are one of books, volumes [or] and chapters.

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72. (Amended) The system of claim [64] 67, wherein at least one of the associated components comprises one of an image, a video segment [or] and an audio segment.

73. (Amended) A system for retrieving a content object from a data repository, the content object being stored within the data repository as a file object containing an ordered list of content entity identifiers [defining] indicating the content entities [of] within the content object, [and a plurality of content objects, each containing a content entity,] comprising:

[Means] means for retrieving the file object containing the list of content entity identifiers, wherein each content entity is stored as an individually accessible file object within the data repository;

[Means] means for retrieving the individually accessible file object corresponding to each content entity identifier; and

[Means] means for inserting the content entity into the ordered list at the location of its content entity identifier.

74. (Amended) A system for constructing a content object, the contents of the content object being defined by an ordered list of content entity identifiers identifying one or more content entities each stored in a data repository as an individually accessible file object, comprising:

[Means] means for retrieving the individually accessible file object corresponding to each content entity identifier; and

[Means] means for inserting the content entity into the ordered list at the location of its content entity identifier.

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75. (Amended) The system of claim 74, further comprising:

[Means] means for assigning an identifier to the content object; and

[Means] means for assigning new content entity identifiers to the content entities, the new identifiers including the identifier assigned to the content object.--